

Flash Floods

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Weather Service

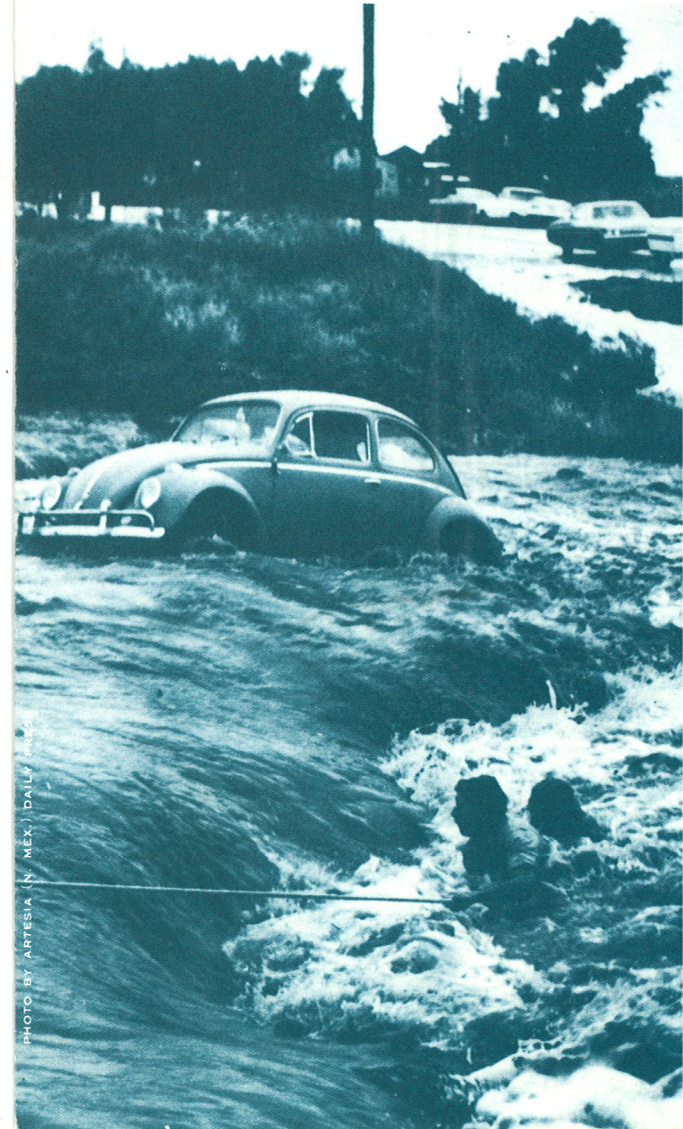


PHOTO BY ARTESIA N. MEX. DAILY NEWS

FLASH FLOODS are a fact of life—and death—along the rivers and streambeds and arroyos of the United States. They result from rains filling natural and man-made drainage systems to overflowing with raging water and its deadly cargo of uprooted trees, smashed structures, boulders, mud, and other debris. Year in, year out, flash floods exact a painful toll from Americans.

In 1972 torrential rains on the slopes of South Dakota's Black Hills caused catastrophic flash flooding along a two-block-wide, 12-mile-long stretch of Rapid Creek, which flows through Rapid City, killing more than 200 persons, and causing more than \$100 million in damage. Barely two weeks later, the most widespread flooding in United States history was caused by the remnant of hurricane Agnes and interactions with other atmospheric systems. As the dying hurricane moved up the Atlantic seaboard, its torrential rains caused flash floods and most of the 122 fatalities, displaced entire communities, and did an estimated \$3 billion in damage.

And, in other areas, flash floods brought the usual smaller tragedies to the Pacific and southwest states.

NOAA, the U.S. Department of Commerce's National Oceanic and Atmospheric Administration, and its National Weather Service are taking steps to improve the technology and content of our flood warning system and to increase the time available for people to take emergency measures to protect life and property. With flash floods, time is so short and the possibility of tragedy so great, that individuals in many areas must also utilize local preparedness plans to help themselves.

If you understand the danger of flash flooding, and know what immediate action to take, you can save your life, and your family's.



CHATTANOOGA NEWS--FREE PRESS PHOTO

Before the flood, know the elevation of your property in relation to nearby streams and other waterways, and make advance plans of what you will do and where you will go in a flash-flood emergency.

When a flash-flood watch is issued for your area:

- Listen to area radio and television stations for possible flash-flood warnings and reports of flooding in progress from the National Weather Service and public-safety agencies.
- Be prepared to move out of danger's way at a moment's notice.
- If you are on a road, watch for flooding at highway dips, bridges, low areas.
- Watch for signs (thunder, lightning) of distant heavy rainfall.

When a flash-flood warning is issued for your area:

- Act quickly to save yourself and those who depend on you. You may have only seconds.
- Do not attempt to cross a flowing stream on foot where water is above your knees.

- If you are driving, don't try to ford dips of unknown depth. If your vehicle stalls, abandon it immediately and seek higher ground; rapidly rising water may sweep the vehicle and its occupants away. Many deaths have been caused by attempts to move stalled vehicles.
- Be especially cautious at night, when it is harder to recognize flood dangers.
- When you are out of immediate danger, tune in area radio or television stations for additional information as conditions change and new reports are received.

After the flash-flood watch or warning is cancelled, stay tuned to radio or television for follow-up information. Flash flooding may have ended, but general flooding may come later in headwater streams and major rivers. REMEMBER: ANY HEAVY RAIN CAN CAUSE LOCALLY DESTRUCTIVE FLASH FLOODING. WHEN IT IS RAINING, THINK FLASH FLOODS!





CHATTANOOGA NEWS--FREE PRESS PHOTO

Heavy rainfall, even for short periods, may be followed by flash flooding in mountain or hilly areas. When you go into remote areas:

- **Stay away from natural streambeds, arroyos, and other drainage channels** during and after rainstorms. Water runs off the higher elevations very rapidly.
- **Never camp on low ground.** A flash flood can catch you while you sleep.
- **Use your maps.** Know where you are and whether you are on locally low ground.
- **Remember:** you don't have to be at the bottom of a hill to be a target for flash flood dangers.
- **Know where the high ground is and how to get there.**
- **Stay out of flooded areas.**
- **Keep alert to signs of wet weather,** either rain where you are or signs of rain—thunder and lightning—nearby.
- **Keep as informed as you can.** If you are out of range of broadcast information, be sure to watch for these indicators of flash flooding: increase in the speed of river flow, rapid rise in river level. **BE PREPARED TO MOVE TO SAFETY.**



NEW YORK DAILY NEWS PHOTO

FLASH-FLOOD WATCH:

Heavy rains may result in flash flooding in the specified area. Be alert and prepared for the possibility of a flood emergency which will require immediate action.

FLASH-FLOOD WARNING:

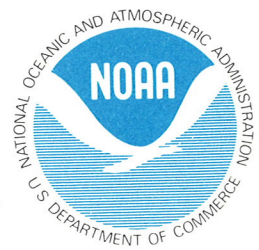
Flash flooding is occurring or is imminent in the specified areas. Move to safe ground immediately.

A NOTE TO COMMUNITY LEADERS:

The National Weather Service has developed several basic methods which communities can use to provide public flash-flood warnings. For details, write: Flash Flood, National Weather Service, NOAA, Silver Spring, Md. 20910.

For sale by
the Superintendent
of Documents,
U.S. Government
Printing Office,
Washington, D.C. 20402,

Price 25 cents



NOAA/PA 73018
1974 (Rev.)